

**SELF-ASSEMBLED NEAR-ZERO-THICKNESS MOLECULAR LAYERS AS  
DIFFUSION BARRIERS FOR CU METALLIZATION**

**ABSTRACT OF THE DISCLOSURE**

The present invention provides a diffusion barrier in an integrated circuit. The diffusion barrier comprises a self-assembled monolayer. The diffusion barrier is preferably less than 5 nm thick; more preferably it is less than 2 nm thick. The self-assembled monolayer typically contains an aromatic group at its terminus.

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